LPDES PERMIT NO. LA0003689, AI No. 1253

LPDES FACT SHEET and RATIONALE
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM
(LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

I. Company/Facility Name: Basell Polyolefins
Lake Charles Plant
P.O. Box 1687
Lake Charles, LA 70602

II. Issuing Office: Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

III. Prepared By: Jenniffer Sheppard
Level 1 Industrial Permits Section
Water Permits Division
Phone #: 225-219-3138
E-mail: jenniffer.sheppard@la.gov

Date Prepared: October 9, 2007

IV. Permit Action/Status:

A. Reason For Permit Action:

Proposed reissuance of an existing Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46.

* In order to ease the transition from NPDES to LPDES permits, dual regulatory references are provided where applicable. The LAC references are the legal references while the 40 CFR references are presented for informational purposes only. In most cases, LAC language is based on and is identical to the 40 CFR language. 40 CFR Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903 and will not have dual references. In addition, state standards (LAC 33:IX Chapter 11) will not have dual references.

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.4901, 4903, and 2301.F.

B. NPDES permit - NPDES permit effective date: N/A
NPDES permit expiration date: N/A
EPA has not retained enforcement authority.

C. LPDES permit - LPDES permit effective date: February 1 ,2003
LPDES permit expiration date: January 31, 2008
LPDES Permit Minor Modification effective date: March 1, 2003
LPDES Permit Major Modification effective date: July 1, 2004
LPDES Permit Minor Modification effective date: August 1, 2004

D. Application received on August 3, 2007. Additional information received via e-mail on October 23, 2007.

V. Facility Information:

A. Location - LA Highway 108 in Lake Charles

B. Applicant Activity -

According to the application, Basell Polyolefins, Lake Charles Plant produces polypropylene and polyethylene using their own Spheripol and Spheriline Catalyst Bulk Processes. Basell currently operates three polypropylene production lines, J-Line, L-Line, and M-Line at its facility. The J-Line and K-Line produce polymerization grade polypropylene (PGP) and the M-Line produces catalloy polypropylene products.

C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903)

Guideline	Reference
Organic Chemicals, Plastics, and Synthetic Fibers	40 CFR 414
Process Flow - 0.579752 MGD	Subparts D and J

Other sources of technology based limits:
LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).
Louisiana Water Quality Management Plan for Sanitary Dischargers.
LDEQ Sanitary General Permits
Best Professional Judgement

D. Fee Rate -
1. Fee Rating Facility Type: major
2. Complexity Type: VI
3. Wastewater Type: II
4. SIC code: 2821

E. Continuous Facility Effluent Flow - 2.592 MGD.
(Max 30 Day Flows of Outfalls 001 and 002)

VI. Receiving Waters: Calcasieu River via an unnamed ditch

1. TSS (15%), mg/L: 10.5
2. Average Hardness, mg/L $CaCO_3$: 977.6
3. Critical Flow, cfs: 1,667
4. Mixing Zone Fraction: 0.33333
5. Harmonic Mean Flow, cfs: 5,750
6. River Basin: Calcasieu River, Segment No. 030301
7. Designated Uses:
   The designated uses are primary contact recreation, secondary contact recreation, and fish and wildlife propagation.

Information based on the following: Water Quality Management Plan; LAC 33:IX Chapter 11;/Recommendation(s) from the Engineering Section. Hardness and 15% TSS data come from monitoring station #94 at the confluence of Bayou D'Inde and the Calcasieu Ship Channel, 1.0 miles northwest of Lock Point (Prien Lake) near Lake Charles and can be found in a memorandum from Will Barlett to Jenniffer Sheppard, dated October 8, 2007 (See Appendix C).

VII. Outfall Information:

Outfall 001

A. Type of wastewater - the discharge of process wastewater, utility wastewater including powerhouse cooling water, and sanitary wastewater.

B. Location - at the point of discharge at the Southeast corner of the facility near the Aeration Pond's outlet, prior to combining with waters in the drainage ditch, at Latitude 30°11'21", Longitude 93°19'00".

C. Treatment - treatment of process wastewaters consists of:
- equalization
- cooling
- sedimentation
- activated sludge
- sludge settling
- skimming

Treatment of Sanitary:
- oxidation pond
- sedimentation
- process wastewater activated sludge treatment unit
- sludge settling
- skimming

D. Flow - Continuous Flow 0.731520 MGD.

Process Wastewater*	0.579752 MGD
Utility Wastewater*	0.126473 MGD
Sanitary Wastewater*	0.025295 MGD

* Specific component waste streams are defined at Appendix A-1 and Appendix F. Please note that an adjustment factor of 0.702628 was applied to reflect evaporative losses at the facility. Therefore the flows listed above used to calculate technology based effluent limitations reflect the adjusted flow. The adjustment factor was retained from the February 1, 2003 LPDES permit.

The Max 30 Day Flow for this outfall is 1.274 MGD, as reported in the August 2, 2007 application submittal. The maximum 30 day value has been used for water quality screening purposes.

E. Receiving waters - Calcasieu River via an unnamed ditch

F. Basin and segment - Calcasieu River Basin, Segment 030301

Outfall 002

A. Type of wastewater - the discharge of utility wastewater including once through cooling water, line purges wastewater, and non-process area storm water.

B. Location - at the point of discharge from the Southeast end of the facility near the Sludge Digestion Basin, prior to combining with waters in the drainage ditch, at Latitude 30°11'21", Longitude 93°19'00".

C. Treatment - treatment of utility wastewaters consists of:
- settling
- skimming
- equalization

D. Flow - Continuous, (Estimated Flow Based on the Flow Balance Diagram) 1.2816 MGD

The Max 30 Day Flow for this outfall is reported as 1.318 MGD, as reported in the August 2, 2007 application submittal. The maximum 30 day value has been used for water quality screening purposes.

E. Receiving waters - Calcasieu River via an unnamed ditch

F. Basin and segment - Calcasieu River Basin, Segment 030301

VIII. Proposed Permit Limits:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

Summary of Proposed Changes From the Current LPDES Permit:

A. Outfall 001 - Permit limitations have increased slightly due to an increase in process flow from 473 gallons per minute to 573 gallons per minute. These limitations were calculated in accordance with the OCPSF Guidelines at 40 CFR 414 (Subparts D and I), with the exception of water quality limited parameters.

B. Outfall 001 - Basell has requested a monitoring frequency reduction for Total Copper, Total Mercury, Benzo(a)anthracene, and Benzo(a)pyrene from 1/quarter to 1/year at Outfall 001. Total Copper and Total Mercury were incorporated into the current LPDES permit due to the Calcasieu Toxics TMDL, issued in the Federal Register on June 13, 2002. Benzo(a)anthracene and Benzo(a)pyrene are OCPSF requirements as well as Calcasieu TMDL parameters. Since permit issuance in February 2003, Basell has collected 19 samples for Total Copper, Total Mercury, Benzo(a)anthracene, and Benzo(a)pyrene.

Lab results for Total Copper were reported using the standard Minimum Quantification Level (MQL) of 10 μg/L. A site specific MQL was not developed for this parameter since the TMDL concentration of Total Copper was calculated well above the standard MQL. Of the 19 DMR results reported during the current permit cycle, there was only 1 detection above 10 μg/L. Basell reported a value of 0.078 lbs/day (10.6 μg/L), which is 6% of the limitation of 1.3 lbs/day.

Lab results for Total Mercury were reported using the standard Minimum Quantification Level (MQL) of 0.2 μg/L. A site specific MQL was not developed for this parameter since the TMDL concentration of Total Mercury was calculated above the standard MQL. Of the 19 DMR results reported during the current permit cycle, all were less than 0.2 μg/L.

Lab results for Benzo(a)anthracene and Benzo(a)pyrene were reported using the standard Minimum Quantification Levels (MQLs) of 10 μg/L. Site specific MQLs were not developed for these parameters since the TMDL concentrations of Benzo(a)anthracene and Benzo(a)pyrene were calculated above the standard MQLs. Of the 19 DMR results reported during the current permit cycle, all were less than 10 μg/L.

Based on Basell's compliance history and DMR data, LDEQ has determined that Total Mercury, Benzo(a)anthracene and Benzo(a)pyrene are not expected to be on-site and/or discharged through Outfall 001. Therefore, LDEQ has granted a monitoring frequency reduction from 1/quarter to 1/year, in accordance with Section 6 of LDEQ's "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, Water Quality Management Plan, Version 4." Total Copper is also not expected to be on-site and/or discharged through Outfall 001. However, since Total Copper was detected above the MQL in one instance, LDEQ has partially granted the monitoring frequency reduction request and established a monitoring frequency of 1/6 months.

C. Outfall 001 - Basell has requested a monitoring frequency reduction for toxicity testing from 1/quarter to 1/year. This request has been denied. Biomonitoring requirements are assigned in accordance with the LDEQ/OES Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, EPA Region 6 Post-Third Round Whole Effluent Toxicity Testing Frequencies (Revised June 30, 2000) (Rationale, Exception 1), and the Best Professional Judgement (BPJ) of the reviewer. The recommendation (in Appendix D) does not allow for an immediate frequency reduction. However, upon successful completion of 4 consecutive quarters of no lethal or sub-lethal effects, Basell may request approval for a reduction in accordance with Part II.P.5.a of the permit.

D. Outfall 001 - Benzo(a)anthracene and Benzo(a)pyrene wasteload allocations (required by the Calcasieu Toxics TMDL) were erroneously applied in the February 1, 2003 LPDES permit and in the July 1, 2004 major modification as daily maximum limitations. However, the TMDL states that these values are to be expressed as monthly averages. Therefore,

Benzo(a)anthracene and Benzo(a)pyrene wasteload allocations have been corrected in this permit issuance to reflect the TMDL requirement as monthly averages.

IX. Permit Limit Rationale:

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2707.L.2.b/40 CFR Part 122.44(l)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A/40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D/40 CFR Part 122.44(d), whichever are more stringent.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations promulgated at LAC 33:IX.2707.A/40 CFR Part 122.44(a) require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgement) in the absence of guidelines, or on a combination of the two. The following is a rationale for types of wastewaters. See outfall information descriptions for associated outfall(s) in Section VII.

1. Outfall 001 - Process Wastewaters

***Outfall 001** - the discharge of process wastewater, utility wastewater including powerhouse cooling water, and sanitary wastewater.

Basell Polyolefins, Lake Charles Plant is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

Manufacturing Operation	Guideline
Organic chemical manufacturing	40 CFR 414, Subpart(s) D and I

PARAMETER	MONTHLY AVERAGE LBS/DAY	DAILY MAXIMUM LBS/DAY
Flow	Report	Report (continuous recording)
pH (standard units)	6.0	9.0 (continuous recording)
BOD_5	128	329

PARAMETER	MONTHLY AVERAGE LBS/DAY	DAILY MAXIMUM LBS/DAY
TSS	210	659
COD	383	988
Benzo(a)anthracene (*1)	0.0875	---
Benzo(a)pyrene(*1)	0.0875	---
Acrylonitrile	0.46	1.17
Benzene	0.18	0.66
Carbon Tetrachloride	0.09	0.18
Chlorobenzene	0.07	0.14
Chloroethane	0.50	1.30
Chloroform	0.10	0.22
1,1-Dichloroethane	0.11	0.29
1,2-Dichloroethane	0.33	1.02
1,1-Dichloroethylene	0.08	0.12
1,2-trans-Dichloroethylene	0.10	0.26
1,2-Dichloropropane	0.74	1.11
1,3-Dichloropropylene	0.14	0.21
Ethylbenzene	0.15	0.52
Methyl Chloride	0.42	0.92
Methylene Chloride	0.19	0.43
Tetrachloroethylene	0.11	0.27
Toluene	0.13	0.39
1,1,1-Trichloroethane	0.10	0.26
1,1,2-Trichloroethane	0.10	0.26
Trichloroethylene	0.10	0.26
Vinyl Chloride	0.50	1.30
2-Chlorophenol	0.15	0.47
2,4-Dichlorophenol	0.19	0.54

PARAMETER	MONTHLY AVERAGE LBS/DAY	DAILY MAXIMUM LBS/DAY
2,4-Dimethylphenol	0.09	0.17
4,6-Dinitro-o-cresol	0.38	1.34
2,4-Dinitrophenol	0.34	0.59
2-Nitrophenol	0.20	0.33
4-Nitrophenol	0.35	0.60
Phenol	0.07	0.13
Acenaphthene	0.11	0.29
Acenaphthylene	0.11	0.29
Anthracene	0.11	0.29
3,4-Benzofluoranthene	0.11	0.29
Benzo(k)fluoranthene	0.11	0.29
Bis(2-ethylhexyl)phthalate	0.50	1.35
Chrysene	0.11	0.29
1,2-Dichlorobenzene	0.37	0.79
1,3-Dichlorobenzene	0.15	0.21
1,4-Dichlorobenzene	0.07	0.14
Diethyl phthalate	0.39	0.98
Dimethyl phthalate	0.09	0.23
Di-n-butyl phthalate	0.13	0.28
2,4-Dinitrotoluene	0.55	1.38
2,6-Dinitrotoluene	1.23	3.10
Fluoranthene	0.12	0.33
Fluorene	0.11	0.29
Hexachlorobenzene(*2)	0.008	0.018
Hexachlorobutadiene	0.10	0.24
Hexachloroethane	0.10	0.26
Naphthalene	0.11	0.29

PARAMETER	MONTHLY AVERAGE LBS/DAY	DAILY MAXIMUM LBS/DAY
Nitrobenzene	0.13	0.33
Phenanthrene	0.11	0.29
Pyrene	0.12	0.32
1,2,4-Trichlorobenzene	0.33	0.68

(*1) TMDL Requirement (See Water Quality Section for further explanation).
(*2) The Monthly Average and Daily Maximum Values listed are water quality based limitations.

Calculations and basis of permit limitations are found at Appendix A-1 and associated appendices. See below for site-specific considerations.

Site-Specific Consideration(s)

Flow - established in accordance with LAC 33:IX.2707.I.1.b. This requirement has been retained from the current LPDES permit, effective on February 1, 2003.

PH - established in accordance with LAC 33:IX.1113.C.1. This requirement has been retained from the current LPDES permit, effective on February 1, 2003.

COD - A COD/BOD_5 ratio of 3 for the Monthly Average and Daily Maximum was applied. This was approximated from the September 26, 1991 NPDES permit and the February 1, 2003 LPDES permit and has been retained in this permit.

Benzo(a)anthracene, and Benzo(a)pyrene - OCPSF Guidelines parameters under 40 CFR 414, Subparts D and I for the Thermoplastic Resins Subcategory. However the limitations are water quality requirements based on the Calcasieu Toxics TMDL.

BOD_5, TSS, Acrylonitrile, Benzene, Carbon Tetrachloride, Chlorobenzene, Chloroethane, Chloroform, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethylene, 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, 1,3-Dichloropropylene, Ethylbenzene, Methyl Chloride, Methylene Chloride, Tetrachloroethylene, Toluene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl Chloride, 2-Chlorophenol, 2,4- Dichlorophenol, 2,4-Dimethylphenol, 4,6-Dinitro-o-cresol, 2,4-Dinitrophenol, 2-Nitrophenol, 4-Nitrophenol, Phenol, Acenaphthene, Acenaphthylene, Anthracene, 3,4-Benzofluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl)phthalate, Chrysene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Fluoranthene, Fluorene, Hexachlorobenzene, Hexachlorobutadiene, Hexachloroethane, Naphthalene, Nitrobenzene, Phenanthrene, Pyrene, 1,2,4-Trichlorobenzene - limitations established in accordance with OCPSF Guidelines under 40 CFR 414, Subparts D and I for the Thermoplastic Resins Subcategory based on the process discharge of 0.579752 MGD.

2. Outfall 002 - Utility Wastewaters & Stormwater

***Outfall 002** - the discharge of utility wastewater including once through cooling water, line purges wastewater, and non-process area storm water.

Utility wastewaters and stormwater being discharged to discrete outfalls receive BPJ limitations/monitoring requirements according to the following schedule:

PARAMETER	**MONTHLY AVERAGE MG/L**	**DAILY MAXIMUM MG/L**
Flow	Report	Report (continuous recording)
pH (standard units)	6.0	9.0 (continuous recording)
TOC	---	50
Oil & Grease	---	15

Site-Specific Consideration(s)

Flow - established in accordance with LAC 33:IX.2707.I.1.b. This requirement has been retained from the current LPDES permit, effective on February 1, 2003.

PH - established in accordance with LAC 33:IX.1113.C.1. This requirement has been retained from the current LPDES permit, effective on February 1, 2003.

TOC and Oil & Grease - established in accordance with current stormwater guidance. These limitations have been retained from the current LPDES permit, effective on February 1, 2003.

In accordance with LAC 33:IX.2707.I.3 and [40 CFR 122.44(I)(3) and (4)], a Part II condition is proposed for applicability to all storm water discharges from the facility, either through permitted outfalls or through outfalls which are not listed in the permit or as sheet flow. The Part II condition requires a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit, along with other requirements. If the permittee maintains other plans that contain duplicative information, those plans could be incorporated by reference to the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of stormwater associated with industrial activity, as defined in LAC 33:IX.2522.B.14 [40 CFR 122.26(b)(14)].

C. WATER QUALITY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limitations and/or specific analytical results from the permittee's application were screened against state water quality numerical standard based limits by following guidance procedures established in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001. Calculations, results, and documentation are given in Appendix B.

In accordance with LAC 33:IX.2707.D.1/40 CFR § 122.44(d)(1), the existing (or potential) discharge (s) was evaluated in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001, to determine whether pollutants would be discharged "at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." Calculations, results, and documentation are given in Appendix B.

The following pollutants received water quality based effluent limits:

POLLUTANT(S)
Hexachlorobenzene
Total Copper(*)
Total Mercury(*)
Benzo(a)anthracene(*)
Benzo(a)pyrene(*)

(*) Water Quality Parameters required by the Calcasieu Toxics Estuary TMDL.

Minimum quantification levels (MQL's) for state water quality numerical standards-based effluent limitations are set at the values listed in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001. They are also listed in Part II of the permit.

WATER QUALITY LIMITATIONS BY OUTFALL

1. Outfall 001 - Process Wastewaters

***Outfall 001** - the discharge of process wastewater, utility wastewater including powerhouse cooling water, and sanitary wastewater.

PARAMETER	**MONTHLY AVERAGE (lbs/day)**	**DAILY MAXIMUM (lbs/day)**
Benzo(a)anthracene	0.0875	---
Benzo(a)pyrene	0.0875	---
Total Copper	---	1.3
Total Mercury	---	0.00896
Hexachlorobenzene	0.008	0.018

See below for site-specific considerations for Outfall 001

Site-Specific Consideration(s) for Outfall 001

Benzo(a)anthracene, Benzo(a)pyrene, Total Copper, and Total Mercury - Wasteload allocation originally established in the *Upper Calcasieu Estuary TMDL*, finalized on June 13, 2002. The limitations were implemented into the February 1, 2003 LPDES and have been retained in this permit. Benzo(a)anthracene and Benzo(a)pyrene wasteload allocations were erroneously applied in the February 1, 2003 LPDES permit and in the July 1, 2004 major modification as daily maximum limitations. However, the TMDL states that these values are to be expressed as monthly averages. Therefore, Benzo(a)anthracene and Benzo(a)pyrene wasteload allocations have been corrected in this permit issuance to reflect the TMDL requirement as monthly averages.

Hexachlorobenzene - OCPSF Guideline limitations under 40 CFR 414, Subparts D and I for Thermoplastic Resins were screened against water quality standards. The water quality Monthly Average and Daily Maximum limitations were more stringent than the technology based effluent limitations, therefore, water quality limitations have been applied.

2. Outfall 002 - Utility Wastewaters & Stormwater

***Outfall 002** - the discharge of utility wastewater including once through cooling water, line purges wastewater, and non-process area storm water.

PARAMETER(S)
None

TMDL Waterbodies

Outfall 001 and 002

The discharges from outfall 001 including process wastewater, utility wastewater including powerhouse cooling water, and sanitary wastewater are to the Calcasieu River via an unnamed drainage ditch, Segment No. 030301. The Calcasieu River is listed on the 303(d) list as being impaired with pcb's and poly aromatic hydrocarbons. To date four TMDLs have been finalized for the Upper Calcasieu Estuary.

The discharges from outfall 002 including utility wastewater, once through cooling water, line purges wastewater, and non-process area storm water are to the Calcasieu River via an unnamed drainage ditch, Segment No. 030301. The Calcasieu River is listed on the 303(d) list as being impaired with pcb's and poly aromatic hydrocarbons. To date four TMDLs have been finalized for the Upper Calcasieu Estuary.

Total Copper
The Upper Calcasieu Estuary TMDL for Copper (see Appendix C) was finalized June 13, 2002, addressing the presence of total copper. This TMDL requires daily maximum effluent limitation of 1.3 lbs/day Total Copper for Basell Polyolefins at Outfall 001 in order to bring this subsegment into compliance with water quality standards. The limitation was implemented into the February 1, 2003 LPDES and has been retained in this permit.

The TMDL established limitations were established for Basell's process discharges only. Therefore, no additional requirements were added to Outfall 002.

Total Mercury
The Upper Calcasieu Estuary TMDL for Mercury (see Appendix C) was finalized June 13, 2002, addressing the presence of total mercury. This TMDL requires daily maximum effluent limitation of 0.00896 lbs/day Total Mercury for Basell Polyolefins at Outfall 001 in order to bring this subsegment into compliance with water quality standards. The limitation was implemented into the February 1, 2003 LPDES and has been retained in this permit.

The TMDL established limitations were established for Basell's process discharges only. Therefore, no additional requirements were added to Outfall 002.

PAH's - Benzo(a)anthracene and Benzo(a)pyrene
The Upper Calcasieu Estuary TMDL for Contaminated Sediments (see Appendix C) was finalized June 13, 2002, addressing the presence of Polynuclear Aromatic Hydrocarbons (PAH). This TMDL requires a monthly average effluent limitation of 0.0875 lbs/day for Benzo(a)anthracene and Benzo(a)pyrene for Basell Polyolefins at Outfall 001 in order to bring this subsegment into compliance with water quality standards. These limitations were implemented as daily maximums in the February 1, 2003 LPDES and have been corrected as monthly averages in this permit to be consistent with the TMDL requirements.

The TMDL established limitations were established for Basell's process discharges only. Therefore, no additional requirements were added to Outfall 002.

Toxicity

The Upper Calcasieu Estuary TMDL for Priority Organics (See Appendix C) was finalized June 13, 2002, addressing the presence of organics. This TMDL requires testing effluents quarterly for chronic toxicity in order to bring this subsegment into compliance with water quality standards. Chronic toxicity testing at Outfalls 001 and 002 was implemented into the February 1, 2003 LPDES and has been retained in this permit.

PCBs

The Upper Calcasieu Estuary TMDL addressed PCBs as an impairment. However, the TMDL did not establish wasteload allocations for subsegment 030301. Therefore, no additional requirements were added to this permit at Outfalls 001 or 002.

Ammonia

The Upper Calcasieu Estuary TMDL addressed Ammonia as an impairment and required retention of previous ammonia limitations. Basell's NPDES permit, effective September 26, 1991, did contain ammonia limitations. However, these limitations were removed during the reissuance of the 2003 LPDES permit due to the elimination of the ammonia source from Basell's process and analytic results from the permit application showing ammonia in amounts well below treatable levels. In addition to elimination of the ammonia source and the lab analyses, ammonia was delisted as an impairment per the June 2002 EPA TMDL Delist. Assessment of new data and information shows this subsegment is meeting the water quality standard for this impairment. Therefore, no additional requirements were added to this permit at Outfalls 001 or 002.

Monitoring frequencies for water quality based limited parameters are established in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001.

D. Biomonitoring Requirements

It has been determined that there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the receiving stream. The State of Louisiana has established a narrative criteria which states, "toxic substances shall not be present in quantities that alone or in combination will be toxic to plant or animal life." The Office of Environmental Services requires the use of the most recent EPA biomonitoring protocols.

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit for Outfall(s) 001 and 002 are as follows:

TOXICITY TESTS	FREQUENCY
Chronic static renewal 7-day survival and growth test using Mysidopsis bahia [Method 1007.0]	1/quarter
Chronic static renewal 7-day larval survival and growth test using inland silverside minnow (Menidia beryllina) [Method 1006.0]	1/quarter

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2715/40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and salinity shall be documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to the Office of Environmental Compliance. The full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105/40 CFR 124.5. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Dilution Series

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 0.3%, 0.4%, 0.5%, 0.7%, and 1.0%. The low-flow effluent concentration (critical dilution) is defined as 0.7% effluent.

E. MONITORING FREQUENCIES

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity [LAC 33:IX.2715/40 CFR 122.48(b)] and to assure compliance with permit limitations [LAC 33:IX.2707.I./40 CFR 122.44(I)]. The following section(s) explain the rationale for the monitoring frequencies stated in the draft permit.

1. Outfall 001 - Process Wastewaters

***Outfall 001** - the discharge of process wastewater, utility wastewater including powerhouse cooling water, and sanitary wastewater.

Flow and pH shall be monitored continuously. These monitoring frequencies were retained from the current LPDES permit, effective on February 1, 2003.

PARAMETER(S)	MONITORING FREQUENCY
Flow	Continuous
pH	Continuous

BOD_5, TSS, and COD - These monitoring frequencies were retained from the current LPDES permit, effective on February 1, 2003.

PARAMETER(S)	MONITORING FREQUENCY
BOD_5	3/week
TSS	3/week
COD	3/week

Total Copper - Basell has requested a monitoring frequency reduction from 1/quarter to 1/year. Total Copper was incorporated into the current LPDES permit due to the Calcasieu Toxics TMDL, issued in the Federal Register on June 13, 2002. Since permit issuance in February 2003, Basell has collected 19 samples for Total Copper.

Lab results for Total Copper were reported using the standard Minimum Quantification Level (MQL) of 10 μg/L. A site specific MQL was not developed for this parameter since the TMDL concentration of Total Copper was calculated well above the standard MQL. Of the 19 DMR results reported during the current permit cycle, there was only 1 detection above 10 μg/L. Basell reported a value of 0.078 lbs/day (10.6 μg/L), which is 6% of the limitation of 1.3 lbs/day.

Based on Basell's compliance history and DMR data, LDEQ has determined that Total Copper is not expected to be on-site and/or discharged through Outfall 001. However, since Total Copper was detected above the MQL in one instance, LDEQ has partially granted the monitoring frequency reduction request and established a monitoring frequency of 1/6 months.

PARAMETER(S)	MONITORING FREQUENCY
Total Copper	1/6 months

Total Mercury, Benzo (a) anthracene, and Benzo (a) pyrene - Basell has requested a monitoring frequency reduction from 1/quarter to 1/year. Total Mercury was

incorporated into the current LPDES permit due to the Calcasieu Toxics TMDL, issued in the Federal Register on June 13, 2002. Benzo(a)anthracene and Benzo(a)pyrene are OCPSF requirements as well as Calcasieu TMDL parameters. Since permit issuance in February 2003, Basell has collected 19 samples for Total Mercury, Benzo(a)anthracene, and Benzo(a)pyrene.

Lab results for Total Mercury were reported using the standard Minimum Quantification Level (MQL) of 0.2 μg/L. A site specific MQL was not developed for this parameter since the TMDL concentration of Total Mercury was calculated above the standard MQL. Of the 19 DMR results reported during the current permit cycle, all were less than 0.2 μg/L.

Lab results for Benzo(a)anthracene and Benzo(a)pyrene were reported using the standard Minimum Quantification Levels (MQLs) of 10 μg/L. Site specific MQLs were not developed for these parameters since the TMDL concentrations of Benzo(a)anthracene and Benzo(a)pyrene were calculated above the standard MQLs. Of the 19 DMR results reported during the current permit cycle, all were less than 10 μg/L.

Based on Basell's compliance history and DMR data, LDEQ has determined that Total Mercury, Benzo(a)anthracene and Benzo(a)pyrene are not expected to be on-site and/or discharged through Outfall 001. Therefore, LDEQ has granted a monitoring frequency reduction from 1/quarter to 1/year, in accordance with Section 6 of LDEQ's "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, Water Quality Management Plan, Version 4."

PARAMETER(S)	**MONITORING FREQUENCY**
Total Mercury	1/year
Benzo(a)anthracene	1/year
Benzo(a)pyrene	1/year

Acrylonitrile, Benzene, Carbon Tetrachloride, Chlorobenzene, Chloroethane, Chloroform, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethylene, 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, 1,3-Dichloropropylyene, Ethylbenzene, Methyl Chloride, Methylene Chloride, Tetrachloroethylene, Toluene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl Chloride, 2-Chlorophenol, 2,4-Dichlorophenol, 2,4-Dimethylphenol, 4,6-Dinitro-o-Cresol, 2,4-Dinitrophenol, 2-Nitrophenol, 4-Nitrophenol, Phenol, Acenaphthene, Acenaphthylene, Anthracene, 3,4-Benzofluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl)phthalate, Chrysene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Fluoranthene, Fluorene, Hexachlorobenzene, Hexachlorobutadiene, Hexachloroethane, Naphthalene, Nitrobenzene, Phenanthrene, Pyrene, and 1,2,4-Trichlorobenzene - Toxic pollutants not expected to be on-site are proposed to be monitored once per year. These monitoring frequencies were retained from the current LPDES permit, effective on February 1, 2003.

PARAMETER(S)	MONITORING FREQUENCY
Acrylonitrile	1/year
Benzene	1/year
Carbon Tetrachloride	1/year
Chlorobenzene	1/year
Chloroethane	1/year
Chloroform	1/year
1,1-Dichloroethane	1/year
1,2-Dichloroethane	1/year
1,1-Dichloroethylene	1/year
1,2-trans-Dichloroethylene	1/year
1,2-Dichloropropane	1/year
1,3-Dichloropropylene	1/year
Ethylbenzene	1/year
Methyl Chloride	1/year
Methylene Chloride	1/year
Tetrachloroethylene	1/year
Toluene	1/year
1,1,1-Trichloroethane	1/year
1,1,2-Trichloroethane	1/year
Trichloroethylene	1/year
Vinyl Chloride	1/year
2-Chlorophenol	1/year
2,4-Dichlorophenol	1/year
2,4-Dimethylphenol	1/year
4,6-Dinitro-o-cresol	1/year
2,4-Dinitrophenol	1/year
2-Nitrophenol	1/year
4-Nitrophenol	1/year

PARAMETER(S)	MONITORING FREQUENCY
Phenol	1/year
Acenaphthene	1/year
Acenaphthylene	1/year
Anthracene	1/year
3,4-Benzofluoranthene	1/year
Benzo(k)fluoranthene	1/year
Bis(2-ethylhexyl)phthalate	1/year
Chrysene	1/year
1,2-Dichlorobenzene	1/year
1,3-Dichlorobenzene	1/year
1,4-Dichlorobenzene	1/year
Diethyl phthalate	1/year
Dimethyl phthalate	1/year
Di-n-butyl phthalate	1/year
2,4-Dinitrotoluene	1/year
2,6-Dinitrotoluene	1/year
Fluoranthene	1/year
Fluorene	1/year
Hexachlorobenzene	1/year
Hexachlorobutadiene	1/year
Hexachloroethane	1/year
Naphthalene	1/year
Nitrobenzene	1/year
Phenanthrene	1/year
Pyrene	1/year
1,2,4-Trichlorobenzene	1/year

2. Outfall 002 - Utility Wastewaters & Stormwater

***Outfall 002** - the discharge of utility wastewater including once through cooling water, line purges wastewater, and non-process area storm water.

Flow and pH shall be monitored continuously. These monitoring frequencies were retained from the current LPDES permit, effective on February 1, 2003.

PARAMETER(S)	MONITORING FREQUENCY
Flow	Continuous
pH	Continuous

TOC and Oil & Grease - shall be monitored 3/week. This monitoring frequency was retained from the current LPDES permit, effective on February 1, 2003.

PARAMETER(S)	MONITORING FREQUENCY
TOC	3/week
Oil & Grease	3/week

X. Compliance History/DMR Review:

A compliance history/DMR review was done covering the period of January 2005 to August 2007.

A. DMR Excursions Reported

DATE	PARAMETER	OUTFALL	REPORTED VALUE	PERMIT LIMITS
07/31/05	TSS	001	688 lbs/day, daily maximum	601 lbs/day, daily maximum
11/30/05	BOD5	001	395 lbs/day, daily maximum	301 lbs/day, daily maximum
10/31/06	TSS	001	247 lbs/day, monthly average	198 lbs/day, monthly average
			1016 lbs/day, daily maximum	601 lbs/day, daily maximum
12/31/06	TSS	001	877 lbs/day, daily maximum	601 lbs/day, daily maximum
01/31/07	TSS	001	611 lbs/day, daily maximum	601 lbs/day, daily maximum

B. Inspections -

December 15, 2005 - Compliance Evaluation Inspection did not reveal any areas of concern. However, the inspector did note several TSS and BOD_5 exceedances during a DMR review.

February 28, 2007 - Compliance Evaluation Inspection did not reveal any areas of concern. However, the inspector did note several TSS exceedances during a DMR review.

C. Compliance History - None

XI. "IT" Questions - Applicant's Responses

Basell Polyolefins is an existing major facility. There were no substantial changes from the current LPDES permit (effective on February 1, 2003), therefore, IT Question Responses were not applicable.

XII. Endangered Species:

The receiving waterbody, Subsegment 030301 of the Calcasieu River Basin is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated October 24, 2007 from Boggs (FWS) to Brown (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

XIII. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XIV. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to permit for the discharge described in the application.

XV. Variances:

No requests for variances have been received by this Office.

XVI. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the fact sheet. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List